



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,707	01/11/2002	Dale E. Gulick	2000.052200/RSBTT4036	1281
23720	7590	07/12/2006	EXAMINER	
WILLIAMS, MORGAN & AMERSON			TO, JENNIFER N	
10333 RICHMOND, SUITE 1100			ART UNIT	
HOUSTON, TX 77042			PAPER NUMBER	
			2195	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/044,707	GULICK, DALE E.	
	Examiner	Art Unit	
	Jennifer N. To	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-11, and 13-28 are pending for examination.
2. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code (specification, pages 13-21). Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture; or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
4. Claims 8-11, and 13-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
5. Claims 8-11, and 13-14 are rejected under 35 U.S.C. 101 because the claimed invention is an apparatus claims appearing to be comprised of software alone without claiming associated computer hardware required for execution, is not supported by either a specific and substantial asserted utility (i.e., transformation of data) or a well established utility (i.e., a practical application). Therefore, claims 8-11, and 13-14 are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 8-11, and 13-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter in which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

8. As per claim 8, lines 5-9, the claimed language recited "the task picker being configured to: determine if at least one task other than the task picker is stored in the queue; execute the at least one task other than the task picker based on determining that the at least one task other than the task picker is stored in the queue; and execute the task picker in response to executing the at least one task other than the task picker and continue executing the task picker until a pre-selected event occurs". However, the specification only disclosed that the task picker is function to select task for execution based on the priority scheme (specification, page 27, lines 2-3), but it is not supported the task picker to do all the above function. It is noted that specification, page 8, lines 11-15 disclosed the controller configured to determine if at least one task other than the task picker is stored in the queue; execute the at least one task other than the task picker based on determining that the at least one task other than the task picker is

stored in the queue; and execute the task picker in response to executing the at least one task other than the task picker and continue executing the task picker until a pre-selected event occurs. Therefore, the claim contains subject matter in which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

9. For the purpose of examination, examiner will interpret the claims as disclosed in the specification wherein the controller is configured to determine if at least one task other than the task picker is stored in the queue, execute the at least one task other than the task picker based on determining that the at least one task other than the task picker is stored in the queue, and execute the task picker in response to executing the at least one task other than the task picker and continue executing the task picker until a pre-selected event occurs.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 1-11, and 13-28 are rejected under 35 U.S.C. 102(a) as being anticipated by Shi et al. (hereafter Shi) (U.S. Patent No. 6757897).

12. Shi was cited in the previous office action.

13. As per claim 1, Shi teaches the invention as claim including a computer implemented method comprising:

storing one or more tasks in a queue (fig. 2; col. 13, lines 52-67; col. 14, lines 1-8), wherein each task has an associated exit routine (figs. 4, 6; col. 14, lines 34-67);

determining at least one task to process based on a priority scheme (fig. 3; col. 5, lines 47-54; col. 14, lines 15-30);

processing the at least one task (fig. 3; col. 5, lines 55-56; col. 14, lines 30-33);
and

calling the exit routine based on determining that the task is not completed processing within a pre-selected period of time (figs. 4, 6; col. 14, lines 34-53).

14. As per claim 2, Shi teaches that wherein storing the one or more task in the queue comprises storing at least one task in the queue at every pre-selected time interval (figs. 2-3; col. 12, lines 43-47; col. 13, lines 53-67; col. 14, lines 1-13).

15. As per claim 3, Shi further teaches generating an interrupt and wherein storing the one or more tasks in the queue comprises storing the one or more tasks in the queue in response to detecting the interrupt (figs. 2-3; col. 13, lines 52-67; col. 14, lines 1-67; col. 15, lines 1-67; col. 16, lines 1-7).

16. As per claim 4, Shi teaches that wherein determining at least one task to process based on the priority scheme comprises determining the at least one task based on a first-in, first-out priority scheme (fig. 2; col. 12, lines 43-47).

17. As per claim 5, Shi teaches that wherein the exit routine comprises calling the exit routine if the task does not complete executing within a pre-selected amount of time (fig. 6; col. 22, lines 13-69).

18. As per claim 6, Shi teaches that wherein calling the exit routine comprises terminating the task currently processing and returning control to a task picker in the queue (col. 14, lines 60-67; col. 15, lines 1-25; col. 22, lines 40-67; col. 23, lines 1-17).

19. As per claim 7, Shi teaches that wherein processing the at least one task comprises executing the task and programming a timer to generate an interrupt after a pre-selected time, wherein the pre-selected time corresponds to the amount of time required for the task to complete executing (col. 23, lines 18-44).

20. As per claim 8, Shi teaches the invention as claim including an apparatus comprising:

a queue having a task picker stored therein (fig. 2; primary task 2.1); and

a controller communicatively coupled to the queue (fig. 2; yield scheduler), the controller to:

determine if at least one task other than the task picker is stored in the queue (col. 15 lines 26-47);

execute the at least one task other than the task picker based on determining that the at least one task other than the task picker is stored in the queue (col. 15, lines 32-57); and

execute the task picker in response to executing the at least one task other than the task picker and continue executing the task picker until a pre-selected event occurs (col. 15, lines 58-67; col. 16, lines 1-7).

21. As per claim 9, Shi teaches that wherein the pre-selected event comprises detection of an interrupt (fig. 6; col. 14, lines 34-42).

22. As per claim 10, Shi teaches that wherein the pre-selected event comprises detection of another task being present in the queue (fig. 6; col. 14, lines 34-42).

23. As per claim 11, Shi teaches that wherein each task stored in the queue comprises an exit routine to terminate that task (fig. 6; col. 34-67).

24. As per claim 13, Shi teaches that wherein the controller determines that more than one task is stored in the queue and wherein the controller selects a task to execute from the one or more tasks based on a priority scheme (figs. 2-3; col. 5, lines 47-54; col. 12, lines 43-47; col. 14, lines 15-30).

25. As per claim 14, Shi teaches that wherein the priority scheme is a first-in, first-out scheme (fig. 2; col. 12, lines 43-47).

26. As per claims 15-21, they are article claims that correspond to method claims 1-7. Therefore, they are rejected for the same reason as method claims 1-7 above.

27. As per claim 22, it is rejected for the same reason as claims 1, 8 above. In addition, Shi teaches a failure recovery timer to generate an interrupt at pre-selected time intervals, wherein each pre-selected time interval is greater than the time it takes for each of the tasks stored in the queue to execute (figs. 4, 6; col. 14, lines 38-53; col. 23, lines 18-36).

28. As per claim 23, it is rejected for the same reason as claim 4 above.

29. As per claim 24, Shi teaches that wherein each task has an associated exit routine and wherein the controller terminates the task by calling the exit routine (figs. 4, 6; col. 14, lines 34-67; col. Col. 22, lines 13-54).

30. As per claim 25, Shi teaches that wherein the controller resets the failure recovery timer before executing the task (col. 23, lines 30-32).

Art Unit: 2195

31. As per claim 26, Shi teaches that wherein the controller determines if the task completes execution within the pre-selected time interval (figs. 4, 6; col. 14, lines 34-53) comprises:

detecting a first failure recovery interrupt (fig. 6; col. 22, lines 31-35);

causing an interrupt service routine to determine a task ID associated with a task executing at the time of the first failure recovery interrupt (fig. 6; col. 2, lines 35-39);

logging the determined task ID (col. 22, lines 40-42).

detecting a second failure recovery interrupt (col. 23, lines 18-27);

determining a task ID associated with a task executing at the time of the second failure recovery interrupt (col. 23, lines 26-44); and

terminating the task executing at the time of the second failure recovery interrupt in response to determining that the two task IDs are the same (col. 23, lines 45-67; col. 24, lines 1-25).

32. As per claim 27, it is rejected for the same reason as claims 2-3, and 7 above.

33. As per claim 28, Shi teaches that wherein the controller resets the failure recovery timer before executing the task picker (col. 23, lines 18-44).

Response to Arguments

34. Applicant's arguments filed 04/18/06 have been fully considered but they are not persuasive.

35. In the remarks applicant argued:

- a. Shi fails to teach an exit routine associated with the tasks stored in the queue.
- b. Shi fails to teach calling an exit routine based on determining that a task has not completed processing within a pre-selected period of time.
- c. Shi fails to teach storing a task picker in the queue.
- d. Shi fails to teach executing the task picker until a pre-selected event occurs.

36. Examiner respectfully traverses Applicant's remarks:

- I. As to point a, Shi teaches an exit routine associated with the tasks stored in the queue (figs. 2, 4, 6; col. 13, lines 52-67; col. 14, lines 1-8, 34-67). It is clearly shown that Shi teaches that each task had a time slice, at the end of its time slice a task will not be continued to execute (the task is exit at that time) until the next assigned time slice. Thus, Shi teaches each task has an associated exit routine.
- II. As to point b, Shi teaches calling an exit routine based on determining that a task has not completed processing within a pre-selected period of time (figs. 4, 6; col. 14, lines 34-53).
- III. As to point c, Shi teaches storing a task picker (the primary task) in the queue (fig. 2; primary task 2.1).

- IV. As to point d, Shi teaches the task picker until a pre-selected event occurs (col. 15, lines 58-67; col. 16, lines 1-7).

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muller et al. (U.S. Publication No. 20020069233) teaches method for the scheduled execution of a target function.

Bunnell (U.S. Patent No. 5469571) teaches task scheduling based on the interrupt handling.

38. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer N. To whose telephone number is (571) 272-7212. The examiner can normally be reached on M-T 6AM- 3:30 PM, F 6AM- 2:30 PM.

40. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

41. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer N To
Examiner
Art Unit 2195


SUPERVISOR PATENT EXAMINER